



Technical Memorandum
L.E. CARPENTER & COMPANY – NJD002168748
Borough of Wharton, Morris County, New Jersey

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Date: November 15, 2005 @ 10am EDT

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Project No.: 00-06527.11

Subject: November 15, 2005 On-Site Meeting to Discuss Natural Resource Injury

This memorandum has been prepared in response the email dated November 10, 2005 outlining the USFWS proposed topics for discussion and objectives for the November 15th on-site meeting. The bullets presented below provide a summarized response to the topics raised by the USFWS and reference specific figures and tables to facilitate discussions.

1. Nature and Extent of Contamination

- On-Site Soil Contaminants of Concern (COCs): Lead (AECs A-1, A-2 and A-3), polychlorinated biphenyls (PCBs) (AEC-PA), intermixed hazardous process wastes [lead 101 mg/L] (AEC-B-1), and intermixed non-hazardous process wastes [elevated leachable copper concentrations @ 137 mg/L] (AEC-B-2). Extents of on-site soil impacts are shown on **Figures 9 & 10** [plan view and cross sections].
- On-Site Shallow Groundwater COCs: Free product layer comprised mainly of Xylene and bis (2-ethlyhexyl) phthalate (DEHP) (Ref. **Figure 9**; AEC C-1). Dissolved phase Xylene and DEHP. Extent of on-site shallow groundwater impact (based on 3Q04 data) is shown on the figure entitled *Impacted Shallow Groundwater Map*.

2. Remedial Activities

- A Chronology of Events summarizing the preconstruction activities leading up to the source reduction remedial project is presented on **Table 1** (April 2004 through June 2005). **Table 2** summarizes all permits, authorizations and certifications obtained prior to the initiation of remedial activities. **Table 3** summarizes the remedial action cleanup objectives and performance criteria.
- As outlined in the chronology of events, the source reduction remedial action was initiated on January 6, 2005 at the preconstruction meeting attended by LEC, RMT and USEPA.

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Implementation of the source reduction remedial action lasted 6 months [January to June 2005]. The active remedial phases were completed over a 5 month period [January to May 2005], and site restorative activities (e.g., backfilling, grading, seeding, and wetland mitigation] were completed during the month of June 2005.

- AECs A-1, A-2, A-3, B-1, B-2 and PA were excavated to lateral and vertical limits outlined in the NJDEP and USEPA approved Remedial Action Work Plan. The coarse fraction (>2.5-inches) was screened and reused as aggregate backfill during smear zone (AEC C-1) excavation through slurry.
- While remediation of the lead soils (AECs A-1, A-2 and A-3), process-waste areas (AECs B-1 and B-2), and PCB-impacted soils (AEC PA) did not present any limitations from a removal and handling standpoint, the soils proposed for removal within the smear zone (AEC C-1), specifically below the water table at the time of excavation, posed challenges due to the potential for excessive groundwater influx, bench wall instability, and emulsification of the product within the saturated zone. Therefore, following NJDEP and USEPA approval, the methods proposed for the source reduction remedial actions in AEC C-1 were augmented by excavating within a cement-bentonite slurry mixture to maintain excavation stability, maximize removal of product, minimize volatilization of contaminants to the surrounding air, and assure post-excavation curing of the slurry. The lateral and vertical extent of AEC C-1 is shown on **Figure 5**. The construction site layout is shown on **Figure 6**. A process schematic of remedial operations is shown on **Figure 7**.
- All excavated materials were managed at off-site disposal facilities as outlined below. Four (4) independent disposal facilities were utilized to manage waste generated at the LEC site.

Facility	Address	Facility ID No.	Materials Received
Grows, Inc.	1513 Bordentown Rd, Morrisville, PA 19067	PAD000429589	Lead Soils
Clean Earth of Philadelphia	3201 S. 61 st Street, Philadelphia, PA 19153	PAD987396819	Lead Soils, Smear Zone Soils
Clean Earth of Maryland	1469 Oak Ridge Place, Hagerstown, MD 21740	MD21740 (Non-Haz)	Lead Soils, PCB Soils
Ross Incineration Services, Inc.	36790 Giles Road, Grafton, OH 44044	OHD048415665	Process Waste

- The contaminant and AEC specific waste weights generated at the LEC site as well as the volume of CKD used to remove free liquids from excavated smear zone soils (AEC C-1) to facilitate screening and off-site transportation and disposal are presented in the following table.

Contaminated Material Type	AEC	Weight (Tons)
Lead Soils	A-1, A-2 & A-3	9,292.04
PCB Soils	PA	2,726.60
Process Waste	B-1 & B-2	450.13
Smear Zone Soils	C-1	34,051.67

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TOTAL WASTE WEIGHT		46,520.44
CKD	---	3,959.05

- All other materials (e.g., piping, abandoned wells, former treatment sheds, small demolition debris, empty bentonite bags, and office trash etc.) were containerized in on-site roll off boxes. Roll off boxes were picked up by Waste Management Inc. following a request from site personnel and transported to the Morris County Landfill for management [Ten (10) roll off boxes in total].
- The main portion of the excavated area [west of the wetland transition zone] was restored with a combination of off-site borrow source material supplied by Tilcon/Mt. Hope, and reused aggregate backfill and clean soils excavated from the LEC site. As-built final grade and subgrade is shown on **Figure 12**.

3. Natural Resource Restoration and Future Monitoring Plans

- **Wetlands:** On June 24, 2005, a post-final grade construction meeting was held with NJDEP LURP on site to review post construction site conditions and permit approved wetland restoration activities. Those in attendance included:

Jill Aspinwall, NJDEP LURP, Case Manager
Jo Dale Legg, NJDEP LURP, Senior Environmental Specialist Mitigation Unit
Nicholas Clevett, RMT, Inc., Project Manager
Brian Majka, JFNew, Restoration Services Unit Manager

A professional survey of all wetland disturbed and restoration areas, and transition zones was completed on August 4, 2005. These results illustrate the completion of successful final grading in accordance with permitted plans. The perimeter of the wetland restoration and transition zone boundaries was marked in the field with 3-foot lengths of 3-inch white PVC, and signs in accordance with the permit.

Prior to being delivered and spread across the site [12-inch thickness as apposed to 6-inches in the non-wetland areas], the topsoil proposed for use in both the wetland area and transition zones was tested by the borrow source (Bendendorf Landscaping) for organic composition. These test results were reviewed by NJDEP LURP staff and accepted during the June 24, 2005 post-construction meeting (Organic Content @ 12.4%). Subsequently, NJDEP LURP did not require organic analysis of soils collected at the six locations outlined below.

Advancing six representative soil borings on June 28, 2005 provided soil thickness and description. Once earth-moving activities were completed in June 2005, seed and woody plant materials were installed throughout the restored wetland and transition zones between June 27th and 29th 2005. The bottom contours of all temporary wetland and transition zone impact areas were seeded with the appropriate native species mixes as specified in the restoration plan. Only native plant species were used for establishing the permanent vegetative community. No exotic or hybrid nursery species were utilized. The forested/scrub-shrub wetland and transition zone impact areas were also planted with bareroot trees as described in the subsequent narrative.

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Along the 0.03-acre of drainage channel restoration, the following planting techniques were implemented. The slope was backfilled with topsoil and compacted to prevent sloughing. The sideslope was then seeded with the slope stabilization seed mix specified in the restoration plan and covered with a double-sided straw coconut erosion control blanket equivalent to North American Green SC-150. Shrubs were planted on at least 4-foot centers across the 0.03-acre of slope stabilization.

A list of actual plant species, seeding rates, and planting quantities installed within the restored wetland areas is provided on the figure entitled *As-Built Wetland Restoration Map*.

- Comprehensive documentation of wetland restoration activities is presented in the report entitled *Wetland Mitigation Construction Final Report* (RMT & JFNew, August 28, 2005). Five years of monitoring and reporting (2005 to 2010) will be performed in accordance with the GP-4 permit.
- **Shallow Groundwater:** With the completion of the source reduction remediation, localized changes in groundwater flow might be expected specifically as a result of the remaining cement-bentonite slurry floor (slurry monolith) that was emplaced to prevent backflow of groundwater and free product while excavating the smear zone. A *Post Remedial Monitoring Plan* (PRMP) as required following implementation of the source reduction remediation was submitted to NJDEP and USEPA for review on October 14, 2005. This PRMP will follow guidance and specifications presented in the 2005 *Monitored Natural Attenuation (MNA) (Monitoring Program Revision 2)* document dated January 13, 2005. The PRMP will be designed to account for localized changes potentially influenced by the slurry monolith, and will be adequate for determining local groundwater flow directions, especially as they relate to the principle receptors; the drainage ditch and the Rockaway River. In addition, proposed screened intervals will adequately monitor residual contaminants that may occur within, below and downgradient from, the slurry monolith. Proposed groundwater monitoring locations are shown on the figure entitled *Post Remedial Monitoring Plan Proposed Monitoring Network*. Details regarding well selection criteria, analytical methods, analytes, sample preservation and holding times, reporting limits, and low flow sampling stabilization parameters are outlined on **Tables 2 through 7**. LEC is currently awaiting NJDEP and USEPA comments regarding the PRMP.
- **Threatened and Endangered Species:** As outlined in the RAWP, an office review and field survey of protected species and critical habitats within the site vicinity were performed in March 2004. These evaluations concluded that 88 federal and state endangered or threatened species are known to exist or have been recorded in Morris County, New Jersey. However, either no or at best a low probability of occurrence exists for the 88 species to be found on the LEC site based on habitat review and site reconnaissance. Response from the U.S. Fish and Wildlife Service (USFWS) was received on November 29, 2004 following reinitiation of informal consultation regarding Section 7 of the Endangered Species Act of 1973 (a condition of RAWP approval). Following regulatory review of the RAWP, both NJDEP and USEPA agreed with the conclusion that the source reduction project would not affect or jeopardize any federal or state listed species, populations, or critical habitat currently under protection. No further action was required.

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- **Cultural Resource Issues:** Cultural resources issues were investigated in March 2004. The NJ Historic Preservation Office (HPO) agreed that the possibility of identifying historic properties on the site during implementation of the source reduction remedial project was low given the extensive surficial disturbance, and the absence of historic deposits at the site. In a letter dated September 30, 2004, NJ HPO stated that LEC complied with Section 106 of the National Historic Preservation Act of 1966. No further action was required.

4. Future Land Use and Restrictions

- Future land use is potential transfer to the Borough of Wharton for development as a Municipal Complex and park [east of the rails to trails]. The Wharton Enterprise property [east of LEC] will not be deed restricted as PCB impact was remediated to the residential direct contact soil cleanup criteria of 0.49 ppm. A conceptual plan for development of the site was provided to the Borough for use in the development of finalized end use plans. See attached figure entitled *Conceptual End Use Plan*.